NEWS IN BRIEF

Times talks break down

THE spirit of peace generated at The Times by Lord Thomson's intervention, evoporated in acrimony last week as unions and mnnagement disagreed vehemently over how much is to be settled before staff ore reinstated. Union chiefs are to meet executives of the parent Thomson Organisation this week to try to reconcile the deadlock.

Proposals pur forward by mnungement last week were rejected by the unions as being completely different from what had been agreed at earlier

Hatchet buried

THE hatelist has been buried between the new UK Apple master distributor, Data Efficiency, and Personal Comnuters, following a meeting at the headquarters of Eurapple. the European marketing company for Apple Computers, in Cupertino, California. The two companies are now negotiating Personal Computers' place in Datu Efficiency's distribution

Same route

OBSERVERS are predicting that, to accompany IBM's anticipated H-series machines, its database management system IMS will take the same route as MVS with the emergence of on SE version offering both added focilities and performance-

Chip for the top

HIGHEST new entry in lost week's Top Forty was "Don't Like Mondnys" by Irish group the Boomtown Rats, currently one of the hottest properties on the pop scene. The song opens with the words "Sillcon chip inside her head". its system competed directly with the IBM 3850 mass storage

Philips to take over Four Phase in UK

Established 212 years ago of Twyford, Berktions system. Phillps calla it the P7000. shire, the Four Phase subsidiary has been

which Philips sold as the X1100 line, but has steadily been enhanced with more compre-

selling its System IV range of distributed company will finally achieve niong-time aim enter the norrhet, data entry systems which are built around for Philips. It introduced the X1150 model in The agreement the company's own 24-bit processor (CW, the UK through its MEt. subsidiory four Phillips hos marketed Four Phase products down the morketing operation some two

THE UK subsidiory of Four Phase Systems is hensive software and is now a complete. The evolution of the product, plus Philips: to be acquired by Philips Data Systems. decentralised processing and communicu- much stronger emphasis on reminal and communications systems, makes this an The ocquiaition of the UK Four Phose appropriate time for the company to re-

The agreement only involves the UK subsidinry and does not affect the status of the years ugo (CW, June 19, 1975), but closed parent company, Four Physe Systems Inc of Cimertino, California.

on the Continent since 1973. The main pro- years later because well-estublished com- Philips is also proposing to buy the fire of duct started out as a key-to-disc system, panies like Redifon and CMC, plus ICL with the shares of Pye Holdings which it does not its Key-Edits, had virtually suturated the UK already rown, making Pye of Cambridge at

Migro lab opens

RESEARCH Into the fahricating af microalectranic devices in the UK regelved a push when formar Education Secretary Shirley Williams spensed a naw labaratory et the Science Resenrch Cauncil'a Rutherfard Leboratory. This has been equipped with

£320,000 elactran-baam Micrafabricetor from Cambridge instrumenta, which is cepable of fabricating circuits of far higher complexity then currently used in microelectronics menufacture. The laboratory will collaborate with faur other UK universities in its work.

TA hits the takeover trail

pany to take control of the take a 55% stoke in the expanded Grundig and Litton industries of Nürnherg, with Dichl having the US, which bought a control- 25%, i.litton industries 19% and small shareholders the hulance.

Triumph Werke in turn loss 92% of Adler, with banks and small shoraholders holding the remainder. It has also token over Litton's Royal Imperial marketing organisation in the US, and this brings combined group sales up to DM 1,100 million, £225 million, in 1978.

TERMINALS

teselet panch

with LA18O into dare.

LA34 Decwater IV

TALLY

TALLY

marketing deal A MARKETING agreement be ween Andahl and Olivetti is a

within three manths.

iliat Ölivetti will market Amer

muinframes in Italy and some

other southern European con-

tries, possibly through jud

"Olivetti is also strong in

Amdahl-Olivetti campanies.

South Americo, which would be

a difficult market for Amdahlo

enter on its own," camman

Altaron Orlonsky, analyst sel

stockbrokers Dean Witter lig

"Amdahl needs to expr:3

worldwide murketing, but

hlishing sales and sena:

works in many more and

would atretch its resource of

thinly," he told Computed

highly qualified salesmen see sell Olivetti's IBM-rompath

terminals should also be able

lumdle large computers.

MONTHLY RENTAL

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Weekly, ite noted that the

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Amdahl-

Olivetti

strongly at imminent moves into the microcomputer field by Hewlett-Packard. A September launch date ia being quoted for a new multl-user, universal sight, despite earlier suggestion from Amdahl that talks had is micraproceasor development system, and later in the year, the company's rumoured parsonal minoted (CWI, June 28). Amdnhl deputy chairms Gene White naw says that the

computer is expected. the development system. cade-named Piscea, will be two companies expect tarrachs capabla of either atand-alone niojor co-operative agreement operation, or diract linking to an He was not available for cumment, but the expectation is

A 32-bit version of Hewiett-Pocksrd's 1000-Series of scianific computers is expected from the HP Data Systems Division by the end of this year. The standord, 18-bit, HP 1000-Seriea processor is the same as used in he venarable HP 2000-Serles

Data Preparation

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Remote Computing

Briefing

H-P move into

US REPORTS are hinting

micros likely

US ambassador

THOMAS WATSON Junior former chairman of IBM, has been chosen by President Corter as the next US ambassador in Moscow, Watson's brother, Arthur "Dick" Watson, was US ambasador in Paris in the carly 1970s. Thomas Watson's appointment is currently being ratified by the US Senate.

Freedom flag

AN attempt to force the government to make a statement on its attitude to Freedom of Information falled last week when it did not oppose an information Bill put forward by former Labour ninister Michael Meacher. The Bill was presented under the Ten Minute Rula as a "flag-waving exercise" and has no chance of being passed, owing to lack of debating time. The issue will be raised again whan tha government prasants its promised reiorms of the Official Secrets Act. The Law Sociaty has daelared itself in favour of Freedom

Xerox switch

XEROX has transferred responsibility for word processors and lascimile equipment back to Dallas, only months aftar moving it to El Segundo, California in the satting up of November 16 1978). A new been considerabla retranchment nothing. Office Products Division has been established, baaded by Donald Massaro, former head of Shugart Associatea.

Talisman ahead

TALISMAN, the Stock Exchange's computer based settle-ment system, is now handling shead of the time originally planned for this level of work-load. Tallsman went live in

Number 664 Thursday, August 2, 1979 BCS names its 1980 president

ore the background of the next deputy president and subsequent president of the British Computer Society, Frank Hooper, who oversees computer R&D at Barclaya Bank, becomes deputy president of the BCS in October 1979 and president a

Hoopar has been a BCS member since 1961 and hos

Hopeful signs of The Times

AGREEMENT hes at lest baen reached at The Times between menagement end national officers of the mein printing unians over tarms for resterting publication. The formule has still to be ogreed by the union national committaes and the members, but after months of atop-go negotiations it naw seems probable that The Timas and its stater papers will rappear in the autumn.

Details of the formula are heing kept secret until the unian

haing kept secret until the untan

committaee have been consubed but they appear not to be eubstantially different from

those put forward by managa-

ment two waeks ago end tojected outright by the unions (CW, July 26).

served on a wide runge of Society committees, including the Recommended DP Methods

He recently chaired the task ship. force set up to tackle low growth Be in membership (CW, July 19).

Fellows of the Society, is a proper target to aim for - and Specialist Group, the Technical the only way for the Society to ond Education Boards, and the ensure that the future of com-Professional Conduct Commit-puting is not clouded by unproessionalism and bad workman-

Before joining Barcinys, Hooper worked for two years The Society's ultimate objec- with Control Data and before tive, Hooper suid, "that all prop- that was with the Atomic Enerly quolified people in dotn ergy Authority and the CEGB.



Price 18p

Amdahl leads

in varsity race A CONTRACT for a lorge-scole mainirame to provide a time with the Conversational Monisharing service to departments tor System. The muchine chosen will within Leeds University is to be placed this week and looks like replace an ICL 1906A, but ICL going to Amdohl which has bid a dld not bid for the contract bc-470V/6, the machine that almost cause it could nut offer a suf-

If Amdulil gets the contract li will be the company's first mi-

matches the IBM 3033 in periur-

US insurers hit by leasing controversy

THE problems which have hit Lloyd's of London as n result of the "J" pollelea lt wrote guarantealng tha raaldual values of computars returned off lease, have now aprand to US inaurance companies. Itel has issued a law-sult against Americas inauranca of Naw Orlaans ovar non-paymant of an insurance

Meanwhila tha drastic financial restructuring of Itel continues, with agreemanta for tha sale of two more divisions, tha ones which leasa aircraft and hlps. The prices are believed to be \$68 million and \$100 million

If the deal goes through, Itel will be left with three orma to its bualnass; computar aales and ieasing, and leasing of rail cara, want up half a point on Friday, leading to spaculation that there may be a buyar in the wings for what is left of the company. Itel'a law-ault is againat

naw rolling stock.

In the rail car business with the

cancellation of two contracts for

Amaricaa Inauranca, numbar ona US insurance broker Marsh and McLannon and aundry others, for a total of \$80 million, much of it punitive damagea. It invoivea a larga IBM 370

which was returned off lease by the Stata of Gaorgia last Dacember, one year after installation. Itel's agents, Guarantaa Appraisal, valued it at \$2,375,000 but it only raised \$1.53 million; Itel dalmed under the insurance tems (CW, and of containers. There has also policy for tha difference, but got

French schools micro project gets under way

THE Franch govarnment's plan for a microcomputer in every school is under way and the first contracta for a total of 416 machines, heve gone to Logabax and L'Occitane d'Electronique. The ultimate requirement will be for 10,000 microcomputers (CW. December 14, 1978), and the two companies and any others interested will be invited to bid for a similar sized contract

in another school. L'Occitane d'Elactronlaue was founded in 1976 in Toulouse to specialise in the video gomes market. It builds its X1 microcomputer around the Motorols 6800 and the system includes double-density mini-floppias, one VDU and optional printar.

The LX500 will hove Logabax

British National Oll Curp last week means that BNOC will remain sufficiently active to eontinue with its plans to develop an in-house system based on a large scale ICL mainframe

A BNOC spokesman said that of a mixture of general accounting, datobuse management and technical applications like structural analysis. The ICL machine will be installed at BNOC headquarters in Glosgow

trom Laxembourg are marifime unitions — application of computers to hydrology, and projeets associated will shipping.

Gone altogether are suppor for John pruduct development projects in the small systems and terminals manufacturing

A NEW semiconductor research laboratory is to be set up in Sunnyvole, California, by the Philips Group, Acting as a complement to the company's existing laboratoriea in Eindhoven, Holland, the moin beneficiary of ita work is likaly to be Signetica, the US semiconductor company bought by Philips four years ago. Other Philips companies, including Mullord and Pye In the UK, should also

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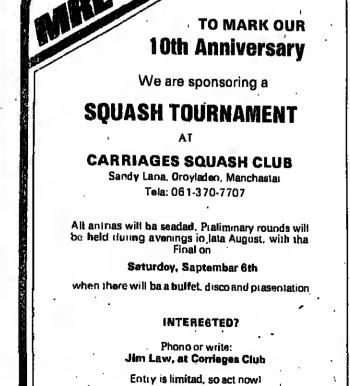
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holograph memory AFTER several years' work the system which uses hundreds of magnetic tape cartridges. an element of photo-reactive Microsystems Division of Pleasey was not prepared to moterial one micrometre in Plessey has killed its holodiameter and set to a specific discuss its work on photochrographic memory development matic memory although IBM frequency. The laser then changes the roject to concentrate on an hos already published a lot of alternative form of loser based information on its own work in mass memory, photochromstic storage, which is already being Patented es the "frequency

actively developed by IBM (CW, August 10, 1976). But the development of the holographic memory may not be at an end, because the man who headed the project at Plessey. Peter Waterworth, has now left the company and is negotiating From front page a deal with Plessey that could

enable him to carry on the work Waterworth was not prepared to comment on his talks with Plessey, although he pointed out that several other parties were interested in exploiting the sys-tem and were also in discussion

with the company.
The Plessey holographic system uses what the company has described as o "revolutionary" new material called Optage, the optical equivalent of magnetic tape but capable of storing some 60 millon bits per square inch at a small froction of the cost per

bit. But the data rate is only marginally faster than with mngnetic tapc. Development had got to the stage where a glossy brochure was published by Plessey showing what looked like a

cumplete marketable system, The brochure pointed out that

The first of the state of the state of the state of the property of the file of the first of the file of the file of the file of the state of the state of the file of the state of the sta

such as Centronics, Telctype

and V24 on a single board, which

Plessey kills off its

chemical nature of the molecules in the material that are receptive to that frequency selective optical data storage so that thay can no longer absystem," IBM's technique in- sorb light.

> Volkswagen is the third com-Triumph-Adler group, after

TA will offer OEM in the UK as well as with its products. TA also has worldwide rights to a very fast (2,000 to 4,000 ehps) non-impact thermol printing mechanism developed by a smail US company, SCI Systems (CW, September 15, 1977).

Used with Prestel or any online system, this could lead to significant reductions in line eosts. it uses electro-sensitive paper, also of interest to Triumph-Adier since the company has a computer supplies • plant in Scutiand.

At the bottom end of its product line, TA olso has n new office computar, the TA 1100. Bused on the Intel 8080, it comes with display, double donsity floppy disc drives and 180 chps printer, and will be lounched in the UK shortly at £8,500 ineluding one suite of application

One of the most nttractive new products to be launched at Hanover this year was the Bitsy word processor, which is morketed by Diehl Dstensysteme capital to finance development but developed by Triumph-

ling interest in 1969. in 1978 the Diehl defence systems, instruments and office

equipment company became a shareholder in the group holding company Triumph-Werke AG. and its uffice systems subsidiary Diehl Dotensysteme became part of the group. By this time it was becoming cleor that Trlumph-Adler was luoking for a major copital in-

Jection to bring its new products to morket whereas problems in other parts of the Litton Industries group meant that Litton was more interested in a short-term righ return from its investment.

After making overtures to Nixilorf, which were rejected because Heinz Nixdorf winted to retoin control of the company he founded, Volkswigen lacintlfied Triumph-Adier us u hroadly hased, well-established compuny with a product line promising considerable potential if it were to receive sufficient

ond growth. As a result, agreement wos

Joseph quells ICL fears

From front page buy a few more shares when

lessey sold its stake. The Inmoa microalectronics, Insac software and Nexos office syatems vanturea survive unscathad and the NEB will continue its involvement with member companies of these ventures including SPL, SDL, CAP, Systime and Logica, and also with Case and DRI.

However the £100 million the NEB la required to raise by sale of assets this year la only n first stap and subsequent sales are

likely to be required. The NEB will be able to invest aome of tha money it raises by sale of assets in new high technology ventures, but it will ba expected to float inmos, Insac and Nexos as public companias once they are viable.



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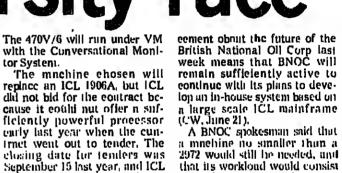
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Users vote VOTING is taking place among membars of the Elliott Com-Puter Users' Asaociation on whether its name ahould ba

Some schools may only get a workstation linked to an LX500

changed to the GEC Computer

Logabax will be supplying its own Basic, and the XI Basic ballot are expected by the end of two mini-floppy drives, 82K. connection with CAP-Microsoft bytes of store and up to 10: of the UK.



Irnet went out to tender. The closing date for tenders was September 15 last year, and ICL was led to understand that a decision would be made by

If ICL had been aware that the decision was to be deloyed until now it could have bid a 2982, the machine it onnounced two mnnths ago (CW, May 31). A dual processor 2922 matches the next year.

power of a 3033. ICL was not prepared to comment on its feelings about missing out at Leeds, although a Itel'a atock, which hod been aliding ateadly on Wall Street, spokesman for the Universities' omputer Board sald that the whole matter was "rather sen-

Christmas, 1978.

The short list of bidders for the Leeda contract consistad of Control Data, Amdahl and saveral third party lassora offering IBM configurations. By way of a consolation for ICL, tha government's snnoun-

CONTENTS

INFATUATION—AND DISILLUSIONMENT IT is often lovn at first aight when schoolahildren sre intro-duced to miaros, but this infatu-

ntion can inact, out the insta-ment. Malcom Paltu reparts on the confurence of micro and mini usars in encondery advection, Muso, what's this and other taplas over dis-

ALSO... Government duta

BL to sell services Real time training . . . Gilb's Mythodology Software File: Op Spot on careers IDPM looks for sponsors . People and Events

Cli-HB partners fall out JOB VACANCIES **PAGES 15-39**



EEC £15m

support for

THE EEC Commission's four-

yenr plan to support the

Europeon computer industry

finally looks like going aheud, but little is left of the original

proposals and the 103 million

Units of Account has becu

computer

industry

Philips to set up US semiconductor lab

benefit from the research.





Guardian Royal goes

SNA in £4m project

necessarily use IBM."

SNA processor.

to link its 50 branches

COMPUTER WEEKLY

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THE Institute of Data Procesprofessional and representative computer industry organisation.

general (sec page 9).

The response to the sppeal will be significant for the future of the Institute. A short recsp of the Institute's history will show

The Institute was formed on April I last year from the merging of the Data Processing agement Association and the Institute of Data Processing, which had a joint and static membership figura of around 4,000. For comparison purposes, the British Computer Society has 23,000 members.

The Data Processing Management Association had evolved into a kind of club, which gave it rather a beery Image even though the meetings were serious enough: they provided a forum for the exchange of Idesa and experiences. Members got some sponsorship on courses but that was the nearest the association came to formal

eveninations and qualifications. The Institute of Data Processing, on the other hand, had a more dignified image, not only because of its name but also because it offered examinations." Its examinations became recognised by the British Computer

Society and by the Civil Service. Given the difference in image between the two bodies it was

sing Management Is tentalisingly close to taking a huge step forward in its quest for full recognition as an authoritative, Ai Its annual incetting last week, un appeal was made for 12 companies to put up £1,000 each to pay for a full-time secretary. crossroads

merger would erode their professional status and lower the standards of the examinations.

However, the merger hos been s great success. Somehow the new Institute of Data Processing Management insnaged to keep some of the beery, working men's club image of the association and at the same time, the more dignified outlook of the Institute.

This success can be measured by the fact that membership has leapt by 35% to 5,400 in little over s year. The institute has set in motion studies of the Impact of the microcomputer on traditional data processing, surveyed its members on their thoughts on the proposed dats protection isws set up a surgery for users planning to get a microcomputar, and organised essay competitions and the Dete Proces-

sing Manager of the Year awerd. Thesa activities, plus tha image tha Institute has won, make its targat of 10,000 members by 1981 feasible. Com-

members were worried that the parisons with the British Computer Society are inevitable, and it must be said that despite all its practical work through its specialist groups, the BCS still has not shaken off the unfortunate academic image which has dogged it during the Seven-

> One smail example of where the Institute scores in the potential member's eyes over the BCS is the fact that the institute has nover awarded Fellowships - the top grode of membership - to big names in Industry, it must continus to siect Fellows from within Its ronks; it is this type of policy which will enable it to remain the organisation "of the people".

> Unfortunately the In-stitute's administrative set-up has not grown with the increeses in membership and activities. The eingle secretary In Maidenheed hes been superseded by offices in London time staff. There is now o necd for a full-time top official.

Ten years

MEMBERS of the IBM (#

puter Users' Association

known datahase const

James Martin, in Londot C

nftarnoon of Monday,

tember 17. Called "An Alic

with James Martin", the

will be held at the GR7

House Hotel and will cost

IBM CUA inembers andi

covered by Martin will;

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TERMINALS

HAZELTINE VDU Range

LA180 DECprinter I

LS120 DECwriter III

LA34 DECwriter IV

Newbury Lab's latest range of British VDL

Texas Instruments Range of Printers

The session is exclude:

being invited tollsten tothe

COMPUTER WEEKLY other and further the interests of JULY 31, 1968 Until now, Ted Cluff has been secretary-general an a volunthry basis. This has put a strain on his relationship with his full-time employer, NCR. The strain on his family of his extra work

Alan Benjamin at the Com-

puting Services Association has

shown what the right person at the top can do. A full-time

official with enthusiasm can get

the organisation.

members working to help cach

FIVE building accisies will tinked into on online accords acricia operated by Centes, the Netional Washington Sank's computer subriding. The eystem was designed a provide the benefits of thing computerised accounting to tem without a heavy eging outlay. The Stitus Rasearch Cauncil mids at £5,000 grent to Brunal Washing to help develop a low as graphics cominal... Datah over £1 million worth at caputars, an 19M 200/80, mill 1804£ and an Orion II, mill the Prudential's Investigation thandware to over £2 in mill. hardly necds mentioning. If the Institute is to keep up its impetus of the last year it must moke the secretary-general post a full-time one and choose very carefully the person for the job. Cluff is a good front-mun and obviously has the enthusiasm for the position. There are runours of discontent about his handling of sonic matters, but someone who devotes so much The axpanelon was pleased a cotor for interseeing batch po ceeding made ... A comparwage to be used for the finition time to the Institute cannot be criticised severely. Besides, a paid official would be more occountable to his "employers", Scalland to help pit m so any problems that might exist spective jurars for a shalf court. The mechine, or 199 at present would be overcome 380/60, belonged to treet whire County Council. Computerview is surprised

that last week's onnuni meeting did not vote immediately to fund a full-time officini out of sub- ATTERNOON WIN scriptions or a levy. It chose instead to look to the industry. James Martin And the industry must reply

positively For the industry stands to benefit from a healthy organisation like the institute, which can do much to educato computer users and spread the word about new weys of solving problems, new technical developments and ow management methods.

The Institute has reached u crossroads, it can now take a hig step forwards. Or it can stand still. After a year of immense activity the letter could be disostrous, for interest could sturt "futures", as well a wet to wene if there is no one to keep up the impetus.

TEXAS INSTRUMENTS.

digital

TELETYPE

Lloyd chairs all-party IT committee

and paers has bean set up in Parliament to keep a watch on ail aspects of information Technology. Chaired by Ian Lloyd (Con., Havant and Waterloo), the committee will aim to keep legislators informed of important developments in the technology and applications of com-

Govt cuts threaten

varsity computing

The Computer Board money Is

going to computer centres,

while the UGC is funding

acadamic departments. In both

casea the money is buying teat

equipment, logic analysers, and

so forth, to be held in cantral

microelectronics systems labs.

The micros themselves will be

bought by the individual de-

The Computer Board has eliocated £393,000 for capital

squipment and £160,000 for cur-

rent expenditure such as staff.

So far 21 univarsities have had

thair epplications for a share of

the money accepted. The Board

hes set up a Microprocessor

Assessment Group to monitor

how universities spend the

iion on equipment and just over £i million on recurrent costs for

this year. The two bodies ere

working closely together, but it

Jim Alty, director of Liverpool

The UGC is apending £1 mil-

partments as they go slong.

Party. The policy document put forward by him and some associatea (CW, April 5) was received by the front bench with politeness but little action and it is partly the failure to establish a party committee that prompted him to organise a non-political Other officers of the commit-

tee ara John Butcher (Con., Lloyd has long been a leading Coventry SW) a new MP until light in efforts to push the recently a marketing manager mportance of Information with General Computer Sya- the government will be in-Technology Within the Tory tems; Gwilym Roberts (Lab.

Cannock); and Lord Lloyd of Kligerran, a Liberal peer and a

in common with other allparty committees, this one will invite expert speakers to talk to MPa and paers, and arrange visits to sec what people are doing in this area and to gather information. Legislation will not generally be forthcoming but whare a clesr need is detected

Thames trip

dent Computer Specialieto has invited enyone in the DP in-dustry to join its annual Themes bost trip, which leaves from Westmineter Pier at 0.45 pm naxt Wednesdey, August 8. Tickete cost \$3.50 and can be obtained in educate by the plan

obtained in advance by phoning Dave Morton on 01-438 8731. An updated hendbook, datailing its 70 member companies end their expartise, hee baen published by the AICS. It is avellable free from the esseciation at Leicester House, S Leic-aster Street, London WC2. Tel. D1-437 0878.

BL to sell

STATE-OWNED car maker, BL ia to starl selling computer time and expertise on a bureau basis. following the establishment of two new subsidiary companies, BL Systems and BL Technology.

University Computer Centre,

who has been campaigning for

some time for a programme such

as thia, dascribed himself as

"very pisased" with the deci-

slons, saying they wera exactly

as he suggested. They were only

stage one of the work that

BL Systems, with headquarters in Redditch, is taking over the running of BL's five main computer centres. The nim is to provide comprehensive computer services for BL's In- microelectronics and microternal use, and also to sell services to outside customers.

was decided not to try to have Some customers closely central co-ordination for the related to BL such as dealers. schemes as universities differ are aircady using BL's comgreatly, and ere better ebia to puters for batch and online adminster the work themselves. work. This service will now be axtanded, and BL Systema will

stendards ond provision of a

Access to network services is

also svailable to users in Europe

and the US via connectiona to

the European Informatics Net-

work and the Amorican

Reaaarch Projact Agancy net-

the service provided by the 2972

as user demand bullds up, but

initially it will take over jobs

currently run in Fortran and Algoi on a pair of KDF9s which were first installed in the mid-

Sixties. Users will convert their

own programs, which ahould be

atraightforward for Fortran,

whila Algol conversion will be

aided by the text editing aids

Eventually computing on the

2972 and other network services on machines which include DEC

PDP-lis and CTL Modular Is.

New facilitiaa wili be added to

calibration service to industry.

national

work, Arpanet.

measurement

tions network planning BL Technology will provide long-term technological deve-lopment effort for the compsny, Also missi

siso offer expertise in systems

development and communics-

Also missing from the latest statistics are the 1978 quarterly complementing each operating export figures for digital sys-tems and analogue/hybrid company's own research and development work. Several of mechines. According to the Dol the operating companies are they will never he made availalready investigating the use of able because the Customs has not been able to revise the orprocessors in vehicles, but it is iginal grossiv inaccurate figures. expected that BL Technology The inaccuracies were reported will play a long term "overseer exclusively in Computer Weekly

A PROJECT, costing between £3 et the £100," sald the spokessnd £4 million, to link its 50-plus branches to an IBM 3032 mainfmsn. "It looks quite impressive, and would meet our requirerame using SNA. Is under way at ments, but one deciding factor will be availability for delivery." Guardish Royal Exchange

Despite its integral 3705 pro-Assurance.
"Our 3032 runs under MVS, cessor, the 4331 doca not appeal. and we have decided to go "The 433i looks like a basicsily SNA," sald a spokesman, "Howbatch machine and we want to ever, we are looking at several do transaction proceasing," he minicomputers and will not commanted.

Among the independent sup A leading contender for the pliers of remote processing syssystem is the new iBM 8100 tems with SNA communication capability are Ventek with the remote processing system, par-Datapoint systems and Comdoas not at present have any putar Automation with the Syfa.

First terminals are due to be in there would be no problem over by aummer 1981, and GRE is hoping to have all non-life bualconversion from the older 3790 ness running on the system by 1985.

"We ere looking very closely Strike halts trade figures

THE strike at the Customs computer centre at Southend seriler The only figures that Customs has sttempted to revise are the this year has resulted in no 1978 export totals which are overaess trade figures for the first quarter of 1979 being quoted now as £124 million fo digits systems and nearly £12 million for analogue/hybrid machines. The latter figure statistics from the Department of Industry on sales by UK comwould have been an unbelievputer manufacturers. The Doi able £73 million if the erroneous said that the missing figures would be included in the next set figures had been used.

Total computer equipment exports in 1978 came to £629 million compared with £498 nili-ion in 1977, but imports showed an equally dramatic rise - from £691 million to £527 million.

Totol sales of all kinds of computer equipment by UK manufacturers in the first quarter of 1070 came to nearly £245m, compared with £253m in the fourth quarter of 1978.

FOCUS :

The right to privacy

Report had been dumped bureaucrotic pending file, a considerable number of installations have been responding to an industry survey initiated by the IDPM.

Far from objecting to proposed privacy lagislation, DP monagement is kean to co-

Some pointers to the survey findinga were presanted at a Central London branch meeting where it did not take long to establish o conflict of views between those on the inside and outside of the DP installation.

the non-DP frsternity woa Dun-can Compbell from the Notional Council for Civil Libertles who believed that the sooner strong curbs were placed on computing operations, the better society ould be pleased. Most of the Ills of the world, he suggested, led

back to the computer. While the DP professional haa his data head down over run compiles, the latest PAYE updatas or the Downtime page in Computer Weekly, computers are causing slarm and abuse

throughout the nation.
Police, it seems, have a parti-

WHILE most of us were culorly unfsir advantage in their valid listing of personal inforessuming that the Privacy dealing with tha criminal cer- mation seems to pose considerowning class, having the benefit elong with the recent Carter of a direct datocom link to the managar, for exampla, Committee proposals un the Swansaa Licensing Centre. commented in the aurvey that Post Office - into some Though whether this benefit posea a threat to the public is o matter of some debate. Swanaoa does not exactly enjoy the best of reputations for computing reliability and performance.

As is often the case, the computer, not the system or applicollon, is made to seem the operate, possibly on the rea- criminal. Critics appear to besoning that if UK rulas don't get lieve that by pushing a few ter-them, then EEC regulations will. minal buttons, oil data files become inatantly accessible. Preliminary interrogations can be triggered by the novice polica constable from the front seat of his squad car parked outside the

The odds on this particular discounted by any ops manager. Even moving a VDU a few yards can produce unexpected reauits

However, it was generally closer interface batween society and computers was desirable and if privacy legislation helps bridge the gap, then it will be no bad thing. The feara of the public must be taken into account, but achieving a degree of confidence will be difficult.

for the entire system. agreed at the meeting that a

in particular, outhenticating n

able problems. One troubled DP vary few individuals would be able to understand the technology of providing volldated record print-outs. Another suggested that any listing function can have its logic distorted so that some elements of the datobose being interrogated can be suppressed.

Clearly the onus of privacy responsibliity will rest firmly on the DPM - rather than on the users, os the Data Protection Committee recommands, Hordly surprising, therefore, that the survey came out heavily against the idea that only one DP expert should be involved on the DPC. Representation, It was ogrecd,

if and when the privacy proposala are taken out and dusted off, there is little doubt that the original terms of reference will have to be extended. As the IDPM survey frequently aska, "Why pick on us?"

One DPM who feels strongly, commented: "Manual filing systems are far more easily accessible to the wrong eyes. Anyone who extracts data from o computer system illegally, deserves o medal plus n job in the DP team."

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Trial release of ICL Kommfy THE long-awaited rewrite of users at the laboratory in Tedrelease 5X32 of the VME/B ICL's Kommfy communications operating system and offera improved facilities and faster research and development on

package for 2900 series is now going on pre-release to a small number of trial sites, including the National Physical Laboratory, whose 2972 was Installed last month.

FRESH doubts have been relsed

over the futura of univarsity

computing by continuing

government cutbacks, only

weeks after the Budget reduced

the Computer Board's silocation by £600,000 (CW, Juna 21). A

source closa to the Board said,

"it is in for a rough time, I sus-

While the cuts in June only

reduced the levsis of certain

could force the Board to rear-

range its plans substantially -

or even scrap its whola stratagy.

Schedules for raplacing univer-

sity computers at specified in-tervals would have to be

shaived. Universities could buy computers out of their UGC

threatened as well,

equipment grents, but these are

Prospects for microprocessor

epplications teaching in uni-

versities look good following a

double boost of funding from the Computer Board and the University Grants Committee, Over

£214 million is being spant on

central support facilities to help

separate departments run

courses and research projects

activities, further raductions

Users have exprasaed dissatisfaction with the original Kommfy, and the rewrite has been expected for some months. The new version depends on

Lowndes-Ajax **US** investment

LOWNDES-AJAX has acquired 56% of the equity of Social Services inc, of North Caroline, whose corporate modelling eyelan Simplen the bureau instal-led last year. SSi's tumover for 1970 le expected to be \$1.75

As part of the deel, the joins operation set up by the com-panies earlier this year as \$\$i international (CW, April S) will become a whall control out bacema a whelly owned sub-sidisry of SSI.

As well as X25, Kommfy Mark 2 supports ICL'a communications protocoi XBM, and the new Full XBM contains a redealgned ilna protocol, CO3, which is instrumental in creating greater flexibility and resilience in terminai configuration - two of the areas picked out at the recent 2900 Club usara' meeting as eauaing pro-

blems (Software Flie, June 7). General release of Kommfy Mark 2 is atlll some months

NPL'a 24 Megabyte 2972 is valued at £1.4 million, includes aix 200 Megabyte EDS 200 diac drivaa and has now passed its accaptance teats. It la being iinked to NPL'a local packet PDP-ii, rether than the iCL 7502 front'end processor, because of NPL's experience with PDP-i is on the network.

The system la expected to will be linked to users via an X25 provide a computing sarvice by the end of the year to network iopment at NPL.

Tesdata enhancement from Teknos performance unit by Teknos Systems that can product with a Tesdata system

looking to improve the accuracy of their data recording ara now offered o microprocessor-based



Teknos points out that the use

be monitored. Teknoa, based at Uckfield.

prevents complete parformance monitoring runs having to be repeated because of errors in tha patch panel or in writing to tape.

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gets a complete hardware/ software package, including a 9-track magnetic tapa unit and a



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and ordering codes to remember, today naw jabele, new prefixee, new prices errive like musical mateors from that outer space known as the "Ideas dispartment of the producers." There is also the ever-aggressive computer which has its own ideas of which regords should go and whence. David Lazell in the Guardian

consultanta Pritchard Brown & Taylor, who wina £5.

Whare, in iges frantiq times, [racord] retailers had only a handful of labale

FIRST of two readers who sent in this example of the stranga things

people say in the media obout computers was J. G. Pritchard, of

MADRE REED & CO. LTO. Walworth Andover Honia Tal: Andover \$159

monitoring systems users interface e 9-track phase encoded tape to a Tesdata monitor.

of a 9-track tape provides error detection and validation facilities not available with the 7track tapes found on some older Tesdata monitors. The Teknoa offering also comas with a printer which is used to indicate if the Tesdata petch panal has been set up correctly for the particuler functions that are to

Sussex says that the use of its printer.

product is the Research and Devalopment Division of the British Gas Corp at Rulham,

The Teknos product coats

Parodies lost, but Nexos won

FAME at last for pur very own a good idea in the granting to office systems firm, Nexos, in being mentioned in one of the glut of parodies of The Times published last week, It was isted among the firms to be hought up by Arabs after being put on the market by NEBslaver Keith Joseph.

Arabs are also supposed to be imving St Paul's Cathedral and shipping it brick by hrlck to Merca. Not very funny.

The same judgment can be made of most of the stories in the parodies, particularly the more ambitious one, "Not Yet The Times". Storles

included geins like "Government to abolish income tax", 'Queen to divorce Duke" and "London's third airport to be in Regent's Park.'' The whole point of parodies

like this is that the stories should be just about believable, so that you are left with a nagging doubt that muyhe they are in fuct true. "Not the New York Times," which came out during a sirike

last Autumn, managed this beautifully with such stories as the collapse of the Triborough Bridge because of sympathetic vihratiums set up by hordes of





With my usual conacien- paradox.

tigating this and can report that in fact the atory doas make sense after all, it seems the board had originally plan-

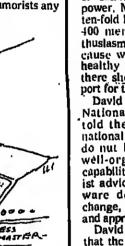
1973. Sorry to ruln a good

Kerry Packer of exclusive rights to televise Purliament. One obvious story they missed was that The Times management is going into business offering courses on how to conduct union

Talking of spoofs, we at CW have been thinking of producing a special issue containing such stories as these Keronix accuses Data General of trying to burn down its fuctory ... IBM tries to appeal, not against a judgment, but against the judge himself in its Goshorn complains that General Automation Is keeping him out of his own

building with armed guards... Polish plug-compatible 1900s threaten ICL. There's more ... MPs claim that Christmos cards are being bought from Russia in exchange for computers ... Xcrox sells its minicomputer business and then hunts around for a minicomputer to

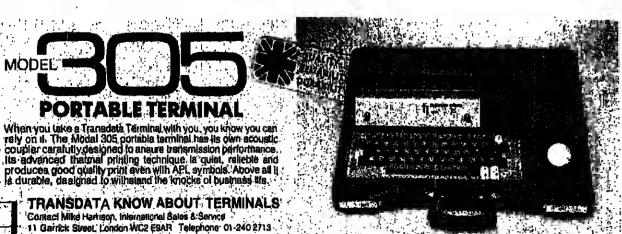
What will be different about this spoof. Ihough, is that these stories are oil true! Who needs to employ humorists any



PORTABLE TERMINAL

Computer Board time warp

A PUZZLED reader has writ- tlousness I have blown much ten to us about our Ten Yeors dust off archives in inves-Ago feature of July 5, which reported that In 1969 the Computer Board was three years behind in its programme. Since the board has only been in ned to have 140 computer units existe.ice for two years and 10 Installed by March 1970, but months, would it have gained had been so seriously delayed two months by not coming into that it was estimated this figexistence at all, our reader ure would not be reached until



Pupils outstrip teachers in micro knowledge

minds of children in a way that no other educational activity can," according to David Tinaley, general inspector of schools

in Birmingham. Starry-eyed love at first keyboard touch is indeed becoming an increasingly common condition among pupils and teachers in schools. Like any other infatuation, however, the blush of new love can quickly turn to hearthreak and anger if the real world fails to live up to the dream world. "l am unhappy that micros

have been taken up so quickly and keenly in schools." Tinsley hravely told the annual conference last month of the Micro/minicomputer Users in Secondary Education, Muse. But instead of receiving hostile reaction from the micro converts, there was general agreement that an uncontrolled spread of microcomputers in schools could be counter-

Reflecting the explosive growth of interest. In the educational uses of cumputing power. Muse itself has grown ten-fold in two years to around 400 memhers, but their enthuslasm for proselytiaing their cause was restrained with a healthy dash of concern that there should be adequate support for teachers.

David Firnberg, director of the National Computing Centre, told the conference "It is a national disgrace that schools do nut have ready access to well-organised computing capabilities," including specialist advice, standards for software development und exchange, expert encouragement

and appropriate information. David Tinsley said he feared that the prospects for the creation of such capabilities would get worse unless the governnent made a positive act of discrimination in favour of microprocessor and computing

Tinsley also pointed out that one of the major challenges to Muse members would be to encourage the development of reliable teaching programs which met real educotional

This would require not only good software expertise but also skilled authora who could structura educational naeds into appropriate programmad instruction forms.

An example of the way in which the computer can stimulate childran's interest and extend its influence beyond the maths department was given by

by Malcolm Peltu



The dangers of the over-enthusiastic spread of micros in schools, the need for adequate backing and training for teachera, and the necessity for government promotion of micros in education were some of the subjects raised at the annual conference the group known as Micro/ minicomputera Users in Secondary Education, Muse. MALCOLM PELTU (left) reports on the conference for Computer

Tony Clements of King Edward that the students quickly be-VI Five Ways school in

A French-language Instruction program was implemented on the school's computer network which is based on a Hewlett-Packard HP 2000, And although adolescent boys usually run shy from French teaching, many were now opting

for computerised French at

The newly elected chairmon

of Musa, John Coll of Oundle

school, sold that over the next

year Muse should concentrate

on trying to develop standards

for software and systems deve-

lopment which would help to

promote mora exchange of

material and push the apprecia-

tion of how computers can be

Imaginativaly and effectively

A concern which wos con-

tinually raised throughout the

conference was how best to

provide support for teachers

who can see the way a micro or

minl spark could start a forest

fire of intarest among tha pupils, but who fear it will be difficult to

provide reliable systems to meet

Few teachers have racelved

any formal computing training

used in education.

the demand.

lunchtime instead of sports.

A former Muse chaliman, Roy Atherton of the Bulmershe teacher trulning college in Berkshire, was possimistic about the prospects for significantly increasing training in the use and understanding of computing Owing to the falling school

population, teacher training is generally being out back, so even if there were a significant ncreose in computer training for new tenchers it would take a long time to make a widespremi impact in schools.

come more proficient than the

Tinsley also highlighted a dis-

turbing trend for teachers with

computer know-how to leave

schools, where their salary child

be around £3,600, for more

lucrative johs in Industry, So.

even the little expertise that

exists in the educational service

is heing drained away.

Buth Tinsley and Firnberg stressed that an external framewurk of support needs to be created tu nesist teachers, with l'insley emphasising the accol for dedicated support from the local education antipority and Firnberg uffering a pational

Tinsley, who has worked for IBM and the National Computing Centre, has played on important part in developing, in Birminghou, one of the country's most comprehenslve support schemes for computer educotion in schools.

The Birmingham prens has a computer centre bucked by computing specialists to provide computing copabilities for schools, mainly terminul-based at present, and also to develop a structured approach to intro-ducing computer-assisted learning into schools.

Birmingham has tullored the iCL Computer-Assisted school meal prices rising the Munagement Of Learning other effects of government of teaching children using interactive terminals and recording their results. He school meal prices many other effects of government of the reference of the results their results. warned, however, that it had axe.

cost about £5,000 to develop a

Camol service for an "A" level

Education a £12.5 million P

Education a £12.5 million P

orrmingham has now employed a full-time mathematicisn and a part-time "Camol driver" to create Calm, a Computer Assisted Learning Module service. This will enable specific educational modules to be developed and then "plugged in" within a Comol framework.

backing are augustion misrocomputer power the majority of State the majority o

starting with specially day loped desk-top aids and motor through micro and mini he anthonity and national inform tion services such as the Oc University computing serie Prestel, local polytechnicat public library facilities.

He also foresees s time state computing takes educations of the school, and Birmingher already conducting an engineent in home-based texting for sick children using acc. puter terminal.



Firnberg stressed that ordinated national pob meded to ensure that graenergy is rhannelled int efficient way.

He said he would like w. rumhined government; gramme encompassing whole educational system : other departments and agensuch as the Department of t dustry and Manpower Senie Caminission and local educati nul borilles.

For the Muse members it is a clear national aced for p moting wider awareness of tecliniques and uses of co. puters, inferoelectronics is telecommunications. The La our government recognised need and during its last ja begun to pour large sums a giving priority to the devel; ment of micro swareness

There la a fervent hope and Muse members of all poli shades that the current go ment also ages the ne special attention being girl the stimulation of tech training, although they aware that acutsly teachars' jobs being threat

is cut, there are many lead

MUSE Letter planned

multi-micro project

ceases than big time sharing machines, it is hoped that the project will be able to identify the reasona why and formulate design rules for such systems and the global memories that will go with them.

One auch experiment has already been performed, Aspinal told Computer Weekly, In which looping processors were added in one at a time to see how much their occasional accesses to central memory interfered with each other. Performance degradation with all 16 waa less than 1/2%.

Dowsing at Swansca is working on languagea and operating systems. A apecial intermediate level language called CYBA-L has already been designed and it is hoped that this can be issued to outside users by the end of the year. A communications link to CYBA is being laid on so thut other workers around the coun try will be able to carry out their own experiments without

building new hordware. One possibility is to use CYBA for a multiple-pass interpreter. dolog all the passes simultaneously on different processors. It is also possible to memory are among the mallers emulate different inconnection structures, such as busses and rings, on CYBA. Other snalyse performance down to upcoming research work includes reliability by redundancy, If multiple micros turn out to graphics, and sorting.

Storage has only recently

storted to exploit European

while Memorex is an old

established company. At the

same tima, Storaga believes that it has been far more succeasful with its IBM 3350 aiternativa

Robert Wilson, president and

chlef executive of Memorex,

biamed tha pressures of infla-

tion, anergy and receasion as

being partly responsible for the

effect on Memorex's profits, and ha also cited IBM's disc driva

Wilson made no mention o

the possible affects of Storage Technology on Mamorex busi-

nesa, but he admitted that

Memorex net profits for the

whole of 1979 would not reach

the 25% increase previously in

than Memorex

price reductions.

Memorex lead shrinks

More money for

THE success so far of David

Aspiaell's multi-microprocessor project at Manchester has led to

confirmation by the Science

Rssesrch Council of another

four years' support for the work and further funding amounting

Now that the basic hardware,

16 Intel 8080 micros, is working.

stalf at the University of

Manchester Institute of Science

and Technology are prassing

shesd with performanca trials

and development of languages.

The project, run jointly by

Aspinall, Erik Dsglesa of UMIST

ment, and Roy Dowsing of Uni-

versity College Swansea where

Aspinall previously worked, is

part of the SRC's Distributed

Computing Programme (CW, October 12, 1976).

The machine, consisting of 16

interconnected micros, has been

given the Welsh name CYBA

l'cubah") ond is intended as a

research vehicle for developing

multi-processor systems and in-

vestiguting the efficiency of

such techniques compared with

conventional computers. The

management of concurrent pro-

cesses and the size of contention

problems over, say, shared main

being investigated. A hardwara

monitor is being built which can

the machine cycle level.

FINANCIAL figures published in growth include the faci that by the two top suppliers of IBMperlpherals, norex and Storage Technology, show that Memorex is still a lot bigger than Storage, but that the latter is growing considerably faster and is far more profitable.

The figures from the two firms both relate to the second quarter of 1979. Memorex revenue was more than \$181 million compared with less than \$120 nlillon for Storaga, but the Memorex figure was only 14% up on the same period last year while revanue at Storage grew by a formidable 79%.

difference in net profit growth between the two comanies was even more dramatic. morex net profit grew only 3% to \$10.6 million, while Storage saw an Impressiva 73% increase to \$9.3 million. Reasons for the big difference dicated to be achiavabla.

NatSemi drops System 200

NATIONAL Semiconductor has dropped the development of its System 200 minicomputer, the machine that was compatible with the Digital Equipment PDP-11/34 and which was the main reason for National's anti-trust suit against DEC over DECs PDP-11 patents.

National said that the death of the System 200 programme was assured earlier this year whan

DEC won a motion to have the case transfarrad from the Federal District Court in San Francisco to Concord, Naw Hampshire, which is near its headquarters in Massachuaetts. The transfer of the case delayed the completion of the litigation. However, National added that

It was carrying on with the ault because it might want to entar the DEC compatible market

Success story

THE biggest success story at Honeywell in the pest five years has been the Level 6 minicomputer line, and to keep up with the high volume of business, the company has moved system commissioning into a new 12,500 square foot building at Hamel Hempstead. The facility at Hemel, shown here, is used for commissioning systems for the Continent as well as the UK.

the training of up to 200 programmers a year on 24-week courses prepared by the NCC. The courses will probably be run at local polytechnics, and funds

the National Computing Centre

to train real time programmers.

Assuming that grants are made at about £70 per person per scheme, the NCC is close to week, the annual cost of the scheme could be about £400,000. The government is reported to

be pressing for cuts in the MSC's budget, of between £300 million RATHER than use DME/ and £450 million over the next However nelther the new

with a new joint scheme with tion". The first, to be undertaken A substantlal part of the new under contract to the Dol, is to NCC courses will be devoted to create a course for managers of the Mascot methodology, which the Ministry of Defence has real time programming projects

This would be similar to the adopted as a standard for real existing Corol 66 programming course, providing materials for time applications. Mascot will not be the only use by companies in-house. The NCC hopes to hold a pilot course in this field in November methodology tsught on the to pay for staff to attend them courses, the nesd for which will be channelled to employers emerged following a joint MSC-

via the industry Training NCC investigation of the shortage of real time programmers. in addition to the MSC

joint scheme with MSC

NCC to train real time

programmers in

DESPITE likely cuts in its man, should the cuts be implebudget, the Manpower Scrvices mented. He stressed that the

Commission is to press ahead Press reports were "specula-

The second NCC project is to create a new HND course in computing with an emphasis on

time training.

VME/B for National Savings

System 4 on 2960, the Department of National Savings has decided to convert straight to scheme nor the existing VME/B at its Glasgow and offected, said an MSC spokes- gow, where the National are to be replaced by a 2976.

4/72s, a dual processor 2972 ls to be installed, while twin 4/72s in Lytham St Annes which administer the Premium Bond Register Threshold programme would be Blackpool installations. In Glas- and Save As You Eorn contracts,

completing plans for two further co-operative ventures in real



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NCC backs author language project

tanguage for use in computer assisted training, naw under way et Mills and Allen Communications, is again thus needed to anable instructors to build likely to cost about £320,000 ever the nest two

tha Pieto system

Amang easting longuages for this task ere IBM's Course Writer, part of 116 and CDC's Tuter, part of

Although the current project is the company's first major corporate venture in this field, several Mills

and Alian staff heve algorificant prior experience M&A director Richard Hooper, for segniple, was

previously the director of NDPCAL, the Nettens Development Project in Computer Assisted Learning

By Peter Hewitt

GILB'S MYTHODOLOGY Evolutionary planning and delivery: an alternative

reconstruction of the storming and risk, than it needs to be in of the Winter Palace during the 1917 Russian Revolution, There were a iot of dead bodies afterwards, dramatised with the help of the audience playing minor

One of the key issues raised during the ploy was whether revolutions really need to be ture, or whether there are more peaceful means available.

I should like to raise the same issue about computer system projects. It is my observation that most projects ore planned with a revolutionary implemen-

projects which are delivered in

order to satisfy the future system user.

I think most of us accept that some degree of evolutionary systems implementation is desirable. We differ in the degree of practice and in the degree o formal training in evolutionary planning methods.

The saddest thing I observe at various sites is that planners have never really been trained in methods of evolutionary system delivery. They have not even been given a fair chance to con-

The traditional life cycle concept - analysis, design. Implementation, operation, maintenance - ia token for phases is far more revolutio- granted. Neither management

AT a London theatre I saw a nary or prone to high failure nor planners seem to consider niternative life cycles.

The only ad in this paper

printed with a Laser

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In the confines of a short column I cennot hope to explain or argue this lasue convincingly. Sadly, I must confess that I sm not even sure I can teach evolutionary planning in a much greater space.

it seems to need practical demonstration on your own project. But if a few readers can be encouraged to rethink some of their planning methods, the column miglit not be wasted.

I personally hove experienced evolutionary plonning and Implementation as one of the moat useful practical "breakthrough" tools in solving seemingly impossible problems of short delivery schedule or cost and risk control. I hope to with the reader.

One danger for the render is that you may believe you ogree with the evolutionory principle and that you practise it fully und

I'll bet you are wrong in that ssumption, and I would be very interested in hearing from the exceptiona. There is, to my knowledge, almost no literature or courses which even attempt to teach the discipline. Thus those who do practiee evolutionary deaign have probably taught themselves. I am not referring to top-down design and Implementation methoda as

taught by IBM. Top-down program design and implementation breaks one of the most fundamental rules of

livery "Every implemented step shall be of use to the system

Even a small project, six months' work for example, might be planned with 10 tu 20 more such deliverable steps. Every step will be one which changes the work situation of the user hopefully in a positive way.

I sometimes refer to this as a

"mountain goat" uppronch. Each step bringe us closer tu the ultimote objective. We have n clearly defined ultimate objective (the mountain top) and we have a globoi plan for getting there (the planned route to the

But we take one step at a time and test the mountain surface with our feet. We take a close look at the immediate future climbing area. We note how tired wa are thus far, and how much time we have used.

We decide if a langer rest period is needed thun originally planned. We may even see the possibility of minor detours from the detoiled raute, so as to case the climb, or tu pick up some greener grass on the woy.

in large projects, i use a hierarchical explosion method in the planning. There ore a minximum of 10 steps to a level of plunning. Each step can be expluded for further planning detail.

The first step, called zero, of each new explosion is a planning ectivity for the remaining steps, and it is the only one allowed to escape the requirement for producing some result for the user, however small.

Each step is planned in terms of time, people und prinducts, ling parameters (such as number of pages of documentation produced, number of additional test

timoting total projects and in estimating progress during paper plan, but it might act

voyoge just as they would be were at the office.

by i. P. Sharp curlier this year online eccass from ships at seu

tha first time thot u commercial computing service has been

customers can enjoy acres locoi cail rates. One is in late Toronto system. Both telex and communications satellite feel. communications sateillte facil-

Sharp in London, commented BIS Software to thet the development was one more atep freeling businessman from the confines of their office.

BIS Software to see the second of the second o

example, that the IXI

This condition means, for tlon

for some ilme to get into pro-gramming. Finding this pro-gression impossible in his instal-Retion, he took a TOPS course in to programming. If you are an appropriate programming of you are an appropriate programming. programming at the Guildford County College of Technology.
This he completed in Dacember last year, gaining high

Since then, almost 150 appli-

Altargo's two packages, also for RPS, extend the device sup-port of the Series 1 to non-IBM The first allowe the Hazeltine

SOFTWARE FILE

Series 1 spawns

flood of packages

in executable code form.

510 to be used as a 4979, with Most prominent among Scithe advantage that it can access con's offerings is a fast dump/ the processor ramotely using a private or awitched line and a restore package. Obviously in-tended to handle the problem of modem. Attachment is via the back-up at sites without o tape asynchronous communicationa dsptor at a speed of 9,600 baud. The 1510 also has a standard

typewriter keyboard, eliminating the need to learn the data entry type keyboard on the 4979.

The packaga, which is claimed Altergo's other product provides line printer support under RPS for the TTY 40 line printer. The TTY 40 can be attached volume floppy disc processing without a modem at a distance and sequence checking. It costs of up to 240ft or with a modem at £600, and operates with the 4962 any distance. and 4963 disc units, end with the

Already in use in its Series developments for Tube Investments and Britannin Airways, Amba Software's packages are ail designed for use with the EDX operating system.

The main product is a blocked record data access method. ADM, which enables any size of logical record to be contained within any size of physical block. Both the block size and externally to the program.

Silli sees no prospect of a job.
One factor which uppears to

have been Important is the requirement for formal

"In most cases it has emerged

that either a degree - though

or at least fiva "O" lavele wae a

prerequialte. Unfortunately,

don't qualify on either count, so what do I do now?

into programming is etill high — evan after aaven montha — but

for how much longar? The aup-

posed ahortage of programmers

cannot be entirely real, or alse aomabody would surely have

givan me tha chanca to prove that I can do the work involved."

it aeams a shame that

aomaone of demonstrated

ability, who already has several

in a position, even as

Claarly, no amount of training

- or amassing of qualifications

will get a job or be eble to do it.

But is there not a case for greater flexibility on the part of

employars taking in trainees in

programming — e job for which the demand so far outstrips the

Programmer Notes is a forum for the discussion of both technical and non-technical matters related

applications or systems program-mer and have views on this or any

"My enthusiosm for getting

qualificationa

PROGRAMMER NOTES

How real is this staff shortage?

A SAD effect of the general cations for o post os n trainee mystique surrounding software is that msny people have only a only a single Interview, and he poorly formed idea of the varied kills needed in a programmer. Even sadder is that misunderstanding of the programmer's task is not restricted to those outside the DP department.

house experience with IBM's

Series 1 has been a flood of sys-

tem software packages. This

process has now begun in the UK, with a rush of announce-

ments by Scicon, Altergo, and

unit, a notable feature of the

oftware is data compression;

this enables a reduction of up to

75% In the number of back-up

floppy discs needed, according

to reduce dump/restore times by

a third, also caters for muiti-

4064 floppy disc and 4986 floppy

disc magazine. Other Scicon products include

a screen formatter for the 4878

and 4979 VDUs; a report for-

matter; and an Indexed file

misnagement system. The latter

caters for both fixed and vari-

able length records, and includes

facilitles for file initialisation.

All four Scicon products are

written in assembler for usc

under the RPS operating system.

reorganisation and recovery.

Ambs Software.

The result of these confusiona Is that in many casea the only acceptable proof of programming ability is programming ex-perience. And where this requirement la relaxed, other quite irrelevant qualificationa may be called for.

Such obstaclee facing those who wish to enier a profession are not, of course restricted to computing.

However, in the case of DP the serious shortage of skilled staff makea a "closed shop" policy singularly ineppropriate. On a recent visit to London, John Imlsy, president of the US data processing service organ-isation, Adepso, predicted that tions, should find it imposable to - barring the much more widespread adoption of pack- trainee. aged software - tha corrent dearth of expert software ataff would reach crisis proportions

And nearly eil those in a poaltion to sea concur in viewing the staff shortage oa the most serious singia problem (acing the industry.

These remarks are prompted available supply and the difficulty of which is fraquently in large part by a latter from an ex-operator who has been trying ovar estimated?

other aspect of programming, please write to: Programmer Netes, Computer Weakly, Derset House, Stamford Street, London, SE1 SLU.

as well as high performance, and takes advantage of the latter in AMSort, a multi-phase disc sort which uses ADM, AMSort caters for up to 64,000 logical records, sorting on up to 38 separate

size ond key length.

example, the EDX assembler.

dexed access method for use with ADM, permitting multiple keys per file and yielding an sversge accass time of 50 milliseconds regordless of file

Amba's finoi product is a package for printer spooling. oviding a variety of facilities for controlling up to 26 classes of output, it requires no modifica-tion to existing programs and can therefore be used both with application programs and ayatem progroms, including, for

likely to cost about £320,000 ever the neat two yeers. It is being backed by the NCC's software products scheme and by the Del.

Mills and Atlen is kean that the language should be fairly portable and that it should be possible to build CAT systems using it on a stand-alone microcomputer. Although the implementation lenguage has not yet been selected, one strong condidate is Pascal. Unlike computer sided learning, which is typically gested to providing standard scedemic instruction,

> shipping lines, shipping agents ware's growing involvement with transport systems has cui- and forwarding agents. Ships minated in the formation of a supports up to 64 concurrent aeparote associate compeny users and is written in Mumps specifically to handle this busifor the Digital Equipment PDP-

> Called TACS, Transportation Users of Shipa include Bell ond Applied Computing Sys-Lines, with six sites, and Ocean tems, the new company is likely Shipping Agencies, for which to concentrate initially on ACS inst year converted the freight forwarding and ahlpping systems, in porticular, it will be system to DEC Standard lumps, DSM-i i. responsible for marketing the Closely related to Ships and

> packages acquired last year by ACS from S. M. Byrne. niso written in Mumps is The most significant of these Freights, for handling European

ACS sets up transport systems company export freight forwarding Though available separately. Freights can also be incorpo-

> TACS will, in addition, be mnrketing the S. M. Byrne sys-Olivetti P6060 minicomputer producing customs documentation and associated job sirects and invoices.

rated into Ships.

 ACS has recently moved to new offices at 37-39 Bowling Green Lane, Lundon, ECI which also the headquarters of

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There is a frequently votes excuse for not using this maker which we can all sympaths with "My boss wants it oo." pleted yesterday". I find that is

wants early results. No other method gives such early rest. in proctice. The fundamental question to pinnner asks when the glis pinnning is completed, is "We is the smollest useful he important atep we can plant implement next?"

is a self-defeating interpretation of what the boss wants Thelog

It is positively amazing ky you can find answers while nllow you to provide unit starter systems to your used weeks and months mile as months and years.

At a rough guess, 30% to 30% of the useful effect of the system can be provided in 5% to 15% the elapsed project time him me, bosses appreciate that lift of computer project. Do not, however, ander

estimate the resistance tots kind of pionning from auto unInded perfectionist pius "Everything sometime" onth their motto. "Something ax." now" is the evolutionary ax: Ah, the end of this other

draws near, and so many iss nre still untouched. So the you are mentally voicing to tions to which them answera which can be feet applying an open-mindal: mun sense to the problem

Bui I will return to the nary planning in the nexunn to cover some of the ba In the meantime, some di could try the the experi working out an alternative for your most imperior for namely, an evolution of

with at least 20 to 50 define phases, rather than the translation of the phases of the phase of the phases of the phase of the phase of the phases of the phases of the phase of th Don't be afraid. It is out !

Online access from ships at sea

THE telox capubility announced "They can work oo at any

on boord the QE II, an ordinary printing terminul was used to access databases held on Sharn's

OFFICES In Luxembours

Puzzler

THIS week'a problem is to fill a 12×3 rectangle with eight integer-sided "tilee" having respective areae of 1, 2, 3, 4, 5, 6, 7 and 8. Tha job must be done in auch a way that no internal grouping, of two or more tiles, makes up the outline of e subsidiery rectangle (ia, other than the 12×3 main figure itself).

This condition means for tight.

example, the sample state of the stood on side of position; since the sample units would then form as units would be to sample.

Altering schedule under IBM OS

alter the work schedule by delaying the running and printing of jobs. He achieves this by means of two commands -Hold, and Retease.

In relation to the system input queues, he uses them to defer individual jobs or entire work streams. To place a single job in a hold state, he enters

H Johnome and to release the joh for processing by the system
A Johname

On certain occasions, it is necessary for the operator to hold entire queuea. For example, if one or more of the system's tape drives are under service, it may he necessary to hold the job stream comprising heavily tape-dependent work. Command

H Q = queue class and when the tape drives are avallable again, he types in

A Q = queue closs Similarly, ataff shortages operator had to leave his station.

On such occasions, he is often faced by mounds of system requests on returning to the cursole. By holding the appropriate queues he can prevent his and so make his task easier.

Under IOM OS, poor scheduling sometimes leads to main storage frngmentation with the result that small areas of it become anusable. To overcome this it is necessary to bring the system to a standstill, and the procedure involved includes olding nll system queues, as

To release them again, the operator types

Hold may also be used to defer the printing of jobs which are on the system output queues. However, in my experience, this is not a common practice.

IBM OS operators usually reschedule such jobs by modifying the output classes to be served might mean that the console by each of the systems output

Bevan moves into management

RUSG GEVAN, farmar chairman of the now disbanded Opcamm, has moved into management. Hals head af operations at Rank Hovis MacDaugell's installetian in Snatol.

acressors.

Beven geined the positian efter gaing thraugh e RHM manegement training schems (Op Spot, May 10), part of which involved filling in far managers et the company's

work far RHM's bekery in 9ris-tol, has an ICL 2903, with a mall team camposed of two operators, and lab control and date prep staff.

Obviously enjaying his new rols, Bevan said, "I em very plassed to be off shift work. Much of the work I do is similar to what I did as a shift leader, with the difference that it's recognised and I get peld

Bevan and his family still live in their native Coventry, but he hopes to find a house in Bristol soon.

Another tip on the 'quiet phone'

IN response to a light regarding the use of telephones with a volume adjustment facility (Op Spot, July 2). Jeff Finney, shift supervisor at Shell the advantage of such telephones. The Postofice does, in fact, market a handset which has a color to the advantage of such telephones. in Manchester, comments "At the installation where I nm employed, we have found that prevents machine noise being picked up."

By Bernard Allen

Obstacles on an op's career path

problem in relation to career progression - a fact well illustrated by the cose of former operator Terrence Tootill (see

this week'a Programmer Notes).
After some five years in operations, Tootill was unable to find a position which he felt would moke use of and reward hia hard-won aklils. He tried to transfer to his site's progromming section, but was unable to

So he left his company, and with a view to moving into programming, went on o TOPS

yow more room than ever, in the

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LONDÓN

that he holds the appropriate City and Guilds certificates, Tootill is still unable to find a job as a trainee programmer.

Well, in my view any operator who wants to become a programmer should be given the oppurtunity to do so hy his company. A good method is to let the person concerned work in systems and programming for a trial period of a month or so thia gives him the chance to see what the job involves and enables the department to find out if he is sultable.

But, to me, the fact that staff fect the need tu swop from operations to programming is a sad reflection on the state of the industry, It indicates that managers in general just are not aware of what operators have to offer in terms of skill and ex-

By working in the operations department, staff gain o wide range of practical experience. This covers the nreas of hard-

with users, something which to be a hit trying at times.

And shift leaders, in parice lar, must learn to use superi sory skills if they are to get the hest out of their tesm of men tors. They must also be able to work under pressure.

Bearing all that in mind u operator's career path shou! lead into technical support monagement, even if the him means leaving the operativa department.

And the fact that more set more sites are installing mile systems opens up snells potential outlet for operators h fact, working in the TP sets should prove interesting andciupon their experience of the computer room. Some sites recognise the

printed magazine, is being plan-ned by the British Library. The potential that exists withint: scheme would be along the lines nerational fratemity and to of the Electronic Information their staff with career promi Exchange System in the US (CW, April 26) with which the sion in mind. It's a pity that more don't Library wanted to co-operate until thwarted by difficulties with Post Office common carrier

HINT OF THE WEEK

Card reader can save console work

CARD readers us a means of entering system commands in the INM OS/VS environment is the subject of a hint from Colin



officer at British Alrwoys in

in general, cunsoles are the best medium for Issuing commands, but O'Keefe points out that this is not always the cose.

transpires on OS/VS 575th that very lengthy com have to be entered, sometime at short notice, when the operator doesn't have time refer to the operating guide According to O'Keefe, and communds should be putt on cards when the operate

has a moment to spare.

will save him a lot of conto the continues, "A very got example for this could be work inter on. where discs which sre no mally accessed throught chunnels, have to be ! through one possibly emergency maintenance.
He gives the follows:

//V 410,PATH,510,OFFLIN And goes on. "On a work needed for each drive as a channel to be offlined. Top them back onlios work require a deck of similar require a deck of similar require a deck of similar requires a deck of similar requ

punched cards with the and

priate parameter change Super Shift places the blame for wavy lines...

STEVE, George and Dave, bet-ter known as "Super Shift" at Smedley HP Foods In Learnington Spa, Warwickshire, have come to the defence of the 'deor old" ICL 1933 printer.

cember, t978, we had an ICL 1933 printer running 24 hours a day, and experienced none of the so-called wavy-line print problems, almost home and the so-called wavy-line print problems. biems, aimply because the ten-sion controls had been set up properly by the operator.
"We have also found this to be

the case at other sites at which we have been employed. In other words, the wavy-line print problem is most definitely an operator as opposed to a hard-ware fault."

The idea of a team hill as Super Shift appeals h as Super Shirt appears sense of humour ship me of tha timal worked where two operators where two operators employed on each ship in christened our ship in the page of the ship in the shi

Come to think nemas abound into nemes that eprine clude Lightning Rubber Duck Does

IDPM wants 12 top firms to sponsor a full-time secretary-general

the computer industry to spon-sor a full-time secretary general for the Institute of Data Proces. were available. The present job holder, Ted Cluff, said that it sing Management with £1,000 a head was made at the Institute's would be up to the Institute's annual meeting last week. council to take action by special London branch member

David Scott-Holta said that precedents for this already existed in the US. Spreading the sponsorship would prevent ony one sponsor from having a dominant role in the instituta's affairs. He said a major stumbling

block in making the job full time was job security. He suggested that, following the lead set at Critish Leyland with Sir Michael Edwardes, the job holder should be given leave of absence from hia old job. This would have the advantage of protecting pension rights, etc.

scientists with the means of

among themselves without the

regulations,
Detailed specifications have
not yet been fixed, but the jour-

reaclution and to draw up a

A call was made by the chairman of the London branch, John Woodgata, to avoid having too many grades of membership in the Institute. Woodgate, who is also a member of the Oritish Computer Society, said he had voluntarily taken a drop in the Society grade from fellow to associate as he fait there was little to be gained from remaining where he wos. On this theme. Cluff said that

plans to appoint senior figures in the data processing industry to

from Infomedia in California.

These both run on PDP-10s, and

EPSS, and PSS when it starts.

central store for checking by the

available to be read by all par-

ticipants, Facilities for joint

editor, refereeing, and finally

publication" by making them

circulating research papers, called Planet and Notepad.

nal will probably use one of two outhorship would be provided,

time secretary general was a good idea provided the finances stitute Process Council, and had stitute Process Council, and had not been discussed since the merger between the Data Pro-cessing Management Associntion and the Institute of Data Processing.

The Institute's second branch

wlli be inaugurated in Oirmingham on Tueaday, October 9, at the Chamber of Commerce in Hagley Road. The meeting is being organised by the Midlands Regional Council which hopes to set up further branches in Coventry, Leicester, Nottingham, Wolverhampton and Worcestershire. The guest speaker in Birmingham will be Alan Watson, marketing manager of Ventek, who will talk on automated offices and the future of data processing.

Library plans electronic journal

and a means of conferencing whereby commants could be added one after another to a

aingle file.
The subject covered by the delays and complications of a it is proposed to use the PDP-10 at Hatfield Polytechnic initially. initial journal will be Computer Human Foctors, and its editor is Participants would connect to the machine either by ordinary to be Professor Brian Shockel diai-up terminal or through of Loughborough University Department of Human Sciences. Authors would type articles on their terminals, to go to a success, it is hoped to expand it.

Advising on the choice of software is Peter Kirstein, of University College London, who is chairman of the British library's New Technology

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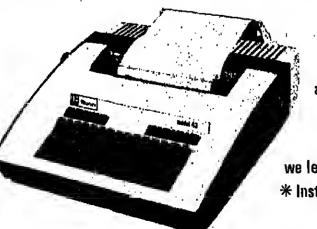


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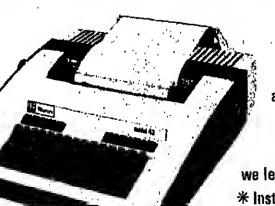
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which, it is understood, is keen

to put considerable financial

The BOC company, which Is

not connected in any way with

BOC Datosolve, is now looking

to move from BOC headquarters

at Hammersmith to a location

more suitable for communica-

tions with the three territories. It

is currently approaching the

dealer network established by

Microsense to see if dealers wish

to continue seiling the 2020 sys-

According to Graham Pyhus

of ITT, there has been little indi-

muscle into the operation.



CHILDREN from Carter Lodge School in Sheffield number of gemes end tasts on computer the GMS computing Tournament, the ennual campetition for schools in South Yorkshire and surrounding areas. They received entire the microcomputer, a Commodors Partial Commodors Pa microcomputer from Martin Chatwin, menaging director of GMB, who elso presented them with the

The headtaachar of the school, Mrs J. Nott, sald that the microcomputer, a Commodore Pat, would be useful and important addition to the school's

In the tournement finel four teems of schoolchild-run, ranging in ege from 14 to 17 yeers, competed in e 6chool and Swinton Compenhensive School.

Star directors named

STAR COMPUTERS, a member Ivan Barneley, McMaster has of the Stor Computer group become softwore director and which specialises in com- will supervise the preparation of puterised accounting and busic computer programs for the Data ness systems from offices in General computers marketed by London, Birmingham and Liver- Star. He was previously a propunt, has announced the ject team leader with the comappointment of two company

They are Euan McMoater and



Terry Knight has become div-isional marketing director of Systime. His most recent posllion was that of national sales and morketing manager at McOnomy, a subsidiary of

Management game

A ONE-MAN taom from finnk Xeros won the tenth nanuel Netlonal Managamont Gama Netional Management Innt week by smearing an profit of Imaginery profit of £12,677,480 in the day-long finel round in London. Nail Tomkin was compating against two other teams from Rank Xerox, which cams third and Menhattan Bank which came

The game involves a computer simulation of a markating exercise and is eo-sponsored by iCL.

COMPUTER COURSES

from The Oxford Business School lor British Computer Society Associateship Exemination and lo enegament Briefing This new eries of courses combines the convenience of being eble 10 study at home with the benefits of e personal lutter available by telephone plus optional seminers. For detailed leallet and application orm writa to The Oirector, Cept ZA3, Oxford Gusiness School, 65 Benbury Road, Oxford OX2 6PR r telaphone 0665 54231 124 ities and computer studies courses.

Alan Waston has become business planning manager of ICL Dataskil, where he will be reenonsible for the two- and five-year bualness plans of the company. Ha formerly held the position of financial controller with the Gould Corp.

Bob Thompson has been promoted to bureau servicea manager for RTZ Computer Barnsley was formerly Midservices. His main job will be to ionds area manager for Star.

promote the company's Faecia package. Prior to joining RTZ CS, ha was operations manager ior systems consultant for comwith the Dickinson Robinson nications in the marketing group. Newly appointed as prodepartment of Arbat. Ha will be duct soles manager is Howard esponsible for Arbat Com-Kirkham, who previously worked for iBM. James Lanvin munications systems worldwide. These include the intelex has become a customer aupport and Swift systems. Evans joined consultant at the company, Arbat's Netherlands aubsidiary n 1975 as a programmer and his financial planning department. Ha has previously lectured in business studies in the Middle last position was as a systems analyst in the production de-

Pottarn recognition and Imaga processing, IEE Computer Sociaty. Chicago, Illinois. Contact: Pattern recognition. PO 80x 636, Silver Spring, MD 20001.

AUGUST 6-8

Third Rocky Mountoin Symposium on microcomputers. IEE Computer Society. Pingree Perk, Calorado, Contact Michael Tindoll. Dept of Computer Science, Colorado State University, Fort Collins, CO 80523.

AUGUST 27-SEPTEMBER 2 Trade and technology in orbit. Orb Foundation. Wembiny conference

Compcon Fall '76. IEEE Computar Society. Cepitol Hilton Hotel, Washington DC. Contact Compcon Fell '79, PO Box 636, Silver Spring.

SEPTEMBER 6 The future of real time languages in process control. BCS Process Control epecialist group. Reading University, Reading, 10.00.

SEPTEMBER 11

Performance manegement, 1DPM West London and Oxford branch. fesdota Housa, Hatfield Road,

SEPTEMBER 11-12 Compuling end communications in the 1680s. Mortin Simpson Resnerch Associatas. Perk Lane Hotel, 36 Central Park South, New York.

SEPTEMBER 12-14 Shape recognition and artificial.

Intalligence. AFTEC and IRIA. Tou-louse, Fronce.

GEPTEMBER 13

Optimal control of larga scala systems. IEE. Sayoy Placa, London WC2. 09.45.

An efternoon with James Martin. 16M CUA and Butlar Cox Associetes. The Grosvanor House otel, Park Lane, London.

SEPTEMBER 17-16
Fourth international confarance on software englacering. IEE Computer Society. Munich, Germany. putnr Society, Munich, Germany. Contact Prof Fritz Baunr, Institut fur Informatik der Technischen Uni-varsitat, D-6 Munichan, 2 Arcis-

SEPTEMBER 21-22 Detabase technology for large, distributed and intelligent data-bases. ACM German chepter. Bad Nauhelm, Kurhaus, Germany.

SEPTEMBER 24-25

Computer software requirements TMSA. London. Tal: 01-242 4045.

SEPTEMBER 26-27
Which terminal? Buyers forum. Infotech. The Regent Centre, Carburton Street, London W1. 6.00.

NOVEMBER 2-4 Fourteenth European technical conference. British: Production and Inventory Control Society. Matropole Hotel, Birmingham.

Security specialist leaves the NCC security contingency planning and other

BIS Appiled Systams.

Ski with

Univac

computer security field as o

pokesman and leading practi-

tioner in various aspects of the

He has written four books and

many articles on eccurity, fraud

tamber 9-16. Sponsoring the

Britiah taam is Univac, which

will also provide a computerised

reaults service at the cham-

The championships will cover

o sea course, an estuery course

and an inland water course, and

wiil be hald at Whitstable. Kent.

The British Water Ski Federa-

Ken Gooding, previously chief accountant for Noiton Com-

munications, has become com-

mercial director of the company.

reporting directly to the

managing director, Brian Dix. He will be responsible for all

commercial and financial ad-

Liveware File

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ministration.

related topics. He has also con-ducted a large number of specialist Ken Wong has left the Intional Computing Centre in security reviews and developed Manchester to become a cuntingency plans for many member of the security tenm al leading companies. His works Wong, who will remain in include Risk Analysis and Controi, a guide fur DP managers. Manchester in his new position, which he wrote while at the has achieved recognition in the

> Ray Elilson, head of the security division at the NCC, is ulso to leave his position, and his plans for the future will be announced chortly.

Rohert Young has been appointed managing director of Computer Assuclates (UK), the British subsidiary of the international software huuse. Before joining CA, he was branch manager of SDI in Rotterdam THE first world water-aki racing championshipa will be held in where he was responsible for sales in Holland, Belgium ond Britain this year from Sep-

Luxembourg.

Colin Croft has joined the board of Computers for Business as sales director, after wurking for Bell and Howell for four years as sales manager of the company's micro-data systems division. He will nuw be responsible for increusing sales of tion is arranging the avent, under the auspices of the World Water Ski Union. the company's CFB 100 small

Soccer results, tables

Division ICL 3, CJ Division Allen 3, V

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Book the date



FROM AN ENTERPRISE

Friday, October 12 at the ROYAL LANCASTER HOTEL

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Exhibition for Logica chief

By Judith Morris

PHILIP HUGHES, mangy: lirector of the services compa-Logica, is so secomplished in ind his fourth one-man mis tion is now in London O.6. play are 64 paintings r drawings of South America the Scilly Isles, All are for all between £110 and £445.

The ink wash and gout paintings combins hold wife with eoft colours. The vis Beryi Bainbridge said of the paintings, "They tell the most how man, dwarfed by lives ive ranges of the Ander, sont, successive civilisations oud?

The exhibition is at the Francis Kyle gallery, 9 Mehrs Street, London WI unit Ags 18. ft is open between 10 and weekdays and il and it

CCCI 162	Miral run.	U
RESULTS	Olvision 3	l f
a City 6, John Lewis 2; Detesolve City 2. 3; BB 0. 4; Wellorax 4.	Comp Wkly 7 6 0 CJB 7 4 0 3Ms 5 3 0 UCSL 5 1 0 ICL 6 2 0 Sherwood 4 1 0	3 3 4 3
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COMPUTER WEEKLY'S

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Helmsman, ahoy! bytes of RAM. Unlike other

sidiary Microsense when it took

on the mester distributorship for

Apple Computers In the UK (CW, June 28) is likely to be

snapped up by the new British

Oxygen company, BOC

The Iwo compenies are cur-

rently negotiating the distribu-tordesi which, in addition to the

Microsense territories of the

Northern Home Countles and

the West of England, is also

likely to include most of Scot-

iTT has been inundated by

inguirles from potential dis-

tributors of the 2020 microcom-

puter, which the company

assembles under ilcence from

Apple in the US, following the

waiting however, on the out-

land except Gleegow.

Microcentre Developments

A DEVELOPMENT of the Abacus Computers Stunt-box universal interface will no doubt soon be warming the cocklos of actor Leelis Phillips' heart, for it is being used as a volca-operated staring controller for small boats.

near the key lack radio programma — "left hand down
a bit" — and gat the sort of
response he had hoped for.
Almad at the luxury yacht

markat, the steering ayelem will have a vocabulary of 32 words, all stored in the Stunt-box's 258

speech recognition systems, the Abscus squipment wilt be able to operate with any voice.

A prototype of the £3,500 system is alreedy working, and Abscus is already considering future developments of it. The most likely is the eddition of a speech syntheels system, so that the spoken commends are repeated by the system to confirm the instruction given. Another, less likely, development is the addition of navigation software to the steering your. Abacus is as yet unsurn of the

Applications workshop

DETAILS of the University of Liverpool's fourth annual workshop ou inicroprocessor applications have been published by the University's Computer

To be held at the university on September 3 and 4, the progremme ranges over such areas as softwere, signs i processing, applications, education, and fu-

Among the apeakers will be rofessor A. J. T. Colin of Strathelyde University. Ha will be talking about the program-ming lenguage Stab, which la being used to run a patient in-

system used in a large electricity sub-station, while E. R. Hnatek. of Monolithic Memories in the US, will discuss future trende in Further datalie of the two-day event, which will cost £32 per delegate, can be obtained from

terrogation ond automatic ding-

nnsis system on a microrocessor.

In the applications area, Pro-

fessor Zissos of Calgary Univer-sity in Canada will be describing

a distributed microcomputer

the organiser. Dr Molcolm Taylor, Univaralty of Liverpool, Streat, PO Box 147, Liverpool L69 3BX.

these can includa gomes,

tutoriais and business routines,

The casaette is supported by

The Juna, July and August

issues. will be available

immediately, and samplas of tha

magazine can be purchased for

£3.50 plua 50p post and packing.

Petsoft is also considering

producing a compliation of the

new versions of the editor and

Pet paper plans

EUROPEAN publishing righta, except for Germsny and Switterland, of the megazina Cursor, aimed at users of the Commodore Pet, have been secured by ware reviews, and hinta on using

The American magazine is British input from Petsoft into and will be available from Petsoft from the August Issue on an introductory annual aubscrip-

Each issue contains a mini-five new programs which can be loaded directly late a Pet microcomputer, and

"Best of Cursor". Upgrading the Cosmac A DISC operating system for the RCA Cosmac microproceasor range of command files, with

thase notes

development system, together with a hardware upgrode package for the system for running macro-assembler The hardwora upgrade pock-aga includes a 16K-byte RAM the operating system, has been introduced into the UK by the company's distributor, Crellon oard, a univarsal asynchronous receiver/transmitter cord, and a. new reod-only mamory con-The operating system incortaining the operating system utilities. Almong other factures, parates a file management syatem that contains an axtensiva up to 19,200

it is distributing.
The end-user price of a 16K

Apple is £810, to which must be added £20 for a black and white modulator board, plus the purchase of a black and white monitor display. Colour Is not available for the system, though a new PAL card is expected by the end of the yeur. ITT's new racommended

retall price for a 16K 2020, with PAL card and culour capability. is £867, while a 48K system is A new disc drive is also ex-

of the year. This will be an colion so far that the existing improved mini-floppy unit, with 2020 dealers wish to make any a 250K byte capacity. Sometime next year, an eight inch, dual This is no doubt partly due to sided, double density finppy defection of Microsense. It is the new pricing structure introtirive offering about 1.5M bytes duced by ITT in response to the is also expected. come of the negotiations with prices being quoted by



The ITT 2020 mig or, now to be distributed by GOC Microcentre Davelopmente in place of Microsenso, and with a new low pricing

Package to control two emulators

A SOFTWARE package that allows a single microcomputer development system to control and co-ordinate the operations of two in-circuit emulators has

just been introduced by Intel. The package is aimed at reducing the cost of developing systems requiring multiple lcroprocessors, which normally require twn separate development systems, each running a single emplator.

Seven devices from Intel's 8bit microprocessor range can be supported by the package, and the computy is planning to in-troduce further enhancements to support others.

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INTRODUCTION TO PASCAL Special features of the language

Part 6

THIS week we look at two of the features that make Pascal special, the CASE statement and the set facility.

Times on cards

Up to now the exact format of times on the input has been left vagite. The nice thing about Pascol's free format input is that the specification need not be too exect. In particular, fixed columns for items are not used; these only lead to untraceable arrors. Presumably, the times will be punched up from forms filled in by The employees (Slaze Inc is not a fully automated concern). Get any group of employees to write out the day hour and minute and you're bound to get variations such as

TUE 8:30 TUES 8:30

TUE 08h30

Not wishing to regiment intelligent beings, we can let these be punched up as they are written and, surprisingly, the program will be not one iota more complicated than if we'd drawn restricting little boxes on the forms.

Mulli-Way Selections

Suppose a higher level procedure has positioned us at the start uf a time, with the first character of the duy in the variable ch. Depending on this character, we want to set up the day com-

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ponent of a time, which was defined in a previous article as equivalent to

> TYPE time = RECORD day: (mon,tues,wed,thurs,fri,sat,sun); hour: 0..23; END:

Pascol has just the construct for this and we can sny

'M': day := mon; 'F': day:= frl END;

The cheractera listed on the left ere the labels which indicate which one (and only one) of the statements is to be executed. That was the easy bit: what about the ambiguoua 'T' and 'S'? Here we have to look at the next character before deciding and we

> read(ch); IF ch = 'U' THEN day := tues ELSE day := thurs

The BEGIN and END bracket off the read and the IF-THEN-ELSE as one statement. The same con he done for 'S'.

The CASE statement does not appear in any other language in this nice form although Algol 68, PL/I, Algol W and even Fortran have some form of multi-way selection. Another feature that is unique to Poscal is the obility to manipulate sets. We can construct sets of simple items just us one would in school arithmetic, for example.

[orangea, apples, banunas].

Square brackets are used to enclose o set and fur membership we use IN in place of the Greek ϵ . Thus we can osk

IF fruit IN [oranges, opples bananas]

The usual operations on sets are also nvollable, namely

interscetlun difference Inclusion

One of the nicest uses of sots I have seen is in the Belfast Priscul Compiler written by Jim Weiah, Collen McShane and Colum Quinn in 1975. While genarating code, thay had to keep track of what registers were currently in use. The compiler had a typo

TYPE setofreglaters = SET OF 0..7

(fdr ICL 1900s) and statements such as the following made it very

thoseusable: thoseavallabla *[4,5,6,7] — thoseprohibited; IF thoseusabla <> ☐ THEN

where [] denotes the empty aat.

Nonexistent days

Getting back to the read times problem, we see that sets are very useful for catching errors. If a CASE statement is provided with a value which is not listed, an axecution error occurs. Of course, our program is more apphieticated and has its own error routine, so we should preface the case as follows:

> IF ch IN ['M', 'T', 'W', 'F', 'S'] THEN CASE ch OF

ELSE error(1); NEXT WEEK: Booleans are great — how to use two-state and multi-state variables

Pascal compilers released for VAX and other systems NEW Psscal compilars have pllation of modulas.

And the second s

been released for the Digital Significantly, it has been Equipment VAX-1.1/780 and for launched in the UK with an Data General Nova and Eclipse attractive discount for academic systems running under AOS. and other institutional users; First heard of two months ago they will pay £1,690 as opposed (CW, May 31), DEC's native to the standard licence fee of mode compiler for the VAX is . £3,375, re-entrant and has several faa. The DG AOS compiler comes tures including separate com from Rhintek Inc. of Columbia.

Maryland, and is a raimplementation of the RDOS version launched last year. The generated code is said to run twice as fast as the equivalent Fortran IV end tha compiler costs \$1,250 in the US.

Keele University hea implamented an interpreting Pascal system for the Digico Mioro 16E, system for the Digico Mioro 16E. Significantly, it has been

By Dr Judy Bishop

Two factures that make Poseni special are the CASE

stotomant end the set facility. Dr Judy Blehop

ooks at these in the sixth

instalmant of har to-pert

sarios, Introduction to

Judy Blehop is a lecture

in computer sciance at

Witwatararand University.

Johannasburg, which this

your switched from Fortun

to Paacal for undergradult

taseliing.

Dealing with days should end by returning to the higher-leaf procedure in the same state as it was left, ient thestart of theme

read(ch)

which will skip the rest of the day's spelling, neatly overcoming the variations of TUE, TUES and even TUESDAY. The IF fa

CASE and the REPEAT will form a "building block" procedure

enlled readday referred to in readttime. Notice the use in Figure of sets for checking subranges. Number is a local variable with

will accept perhaps erroneous hours and minutes before they

PROCEDURE reedtime (VAR thiatima: time);

IF number IN [0..23] THEN hour := number

IF number IN [0..59]THEN min := number

Sets could revidutionise programming but unfortunately

there is a restriction on the largest element that can be put as

such as 63 or 47 and this sometimes prevents one from harings: of characters. Furthermore, Arthur Sule of Tasmania United

has pointed out that some compilers do not like unamed stal integers as in [0,59]. I would like to appeal to ony implement

rending this to make sure their compilers implement sets sign powerful feature it is meant to be and remove these restricted

CASE ch OF

END:

END ('case')

UNTIL ch <> epace;

Figure 2. A procedure to read days of the week

ELSE error (1);

REPEAT

END:

read(ch)

" 'T': BEGIN

PROCEDURE rendday (VAR thiatima: time);

WITH thistime DO
IF ch IN ['M', 'T', 'W', 'F', 'S]THEN

ELSE dey := thurs

IF ch = 'U' THEN day := tues

IF ch = 'A' THENday = 30 ELSE dey := sun

'M': day := mon;

'W':dey := wed

'F' :dey : fri;

'S' : BEGIN

ull implementations implement them sufficiently well Use

number: integer;

(INTIL ch = space;

item. Thus we include

copied into the time.

BEGIN

END:

REPEAT

reed(ch)

UNTIL ch - spece;

readdey(thietime);

WITH thietimo DO

reed(number);

reed(numhor);

Figure 1. A procedure to ruad in times

ELSE error(2);

ELSE error(3);

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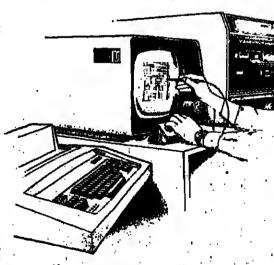
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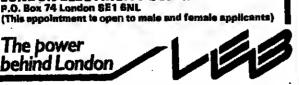
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Candidates should have a minimum of two years experience in an IBM 370 anvironment using OS/VSI and should idealty have some knowledge of a multi-cpu installation.

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Applications stating age, education, qualification and experience should be addressed to

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Analyst with a comprehensive knowledge of industrial or commercial applications systeme, and able to design allicient systems on Mini and Micro processors, are urgently required to participate in Turnkey projects at our rapidly developing Datecentre. Experience of designing and systems testing eystems will be importent, with evidence of heving installed et leest 3 mejor systems during the last 3 years. Ability to work in isolation, taking the user requirement to Iuli programming specification will be importent. Previous programming experience is essential. Ability to cerry out lessibility studies end essess systems and programming development times eccurately will elso be importent. Early promotion opportunities ere eveileble for competent conecientious Analyst with good business judgment.

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Dur small ICL Turnkey development section is shortly to ambark upon a significant marketing expansion and needs a number of experienced stell to support the venture. Our present in house configuration consists of en ICL 29D4 with EDS 6D's plus local and tamote communications via 76D2 terminal processors using Cebal under MTS.

Within this section EMS ere currently angeged in a series of interesting Projects developing a variety of applications to Midlands clients. As part of the planned expansion we have commanced design of eoliwara development ends end the development modular, interactive applications systems.

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Prelevence will be given to candidates passessing linencial applications experience and any experience with On-line / Real-line systems would be beneficial. Help us to build the most professional ICL Support Group within the UK.

Consultant Don Welkinte Ring 0782 623665

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Applications should be eddressed to:

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IRISH RECRUITMENT **FEATURE**

Advertisers are reminded that the next Computer Weekly erea feature will be published on August 9 and will highlight career opportunities in Ireland.

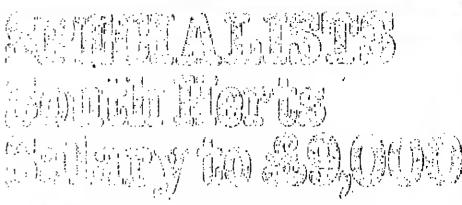
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olvement with us at this stage of our marke development will provide excellent opportunities for professional growth world-wide.

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Applicants should be in the age range 30-45 and have a degree or accounting quelification es well as memberehip of e professional computing body. A minimum of aix yaers' precticel experience in computerised business systems and O & M must be supported by at least two years' proven menagement responsibility

This is a senior management position carrying an attractive salary and fringa benefit package. A Company car will be provided.

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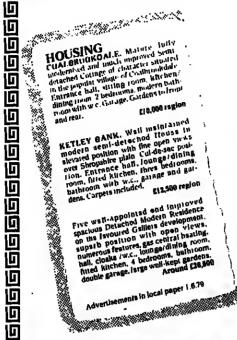
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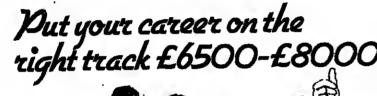
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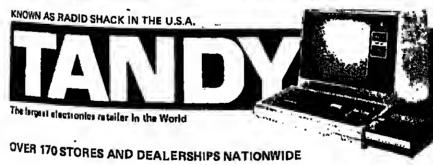
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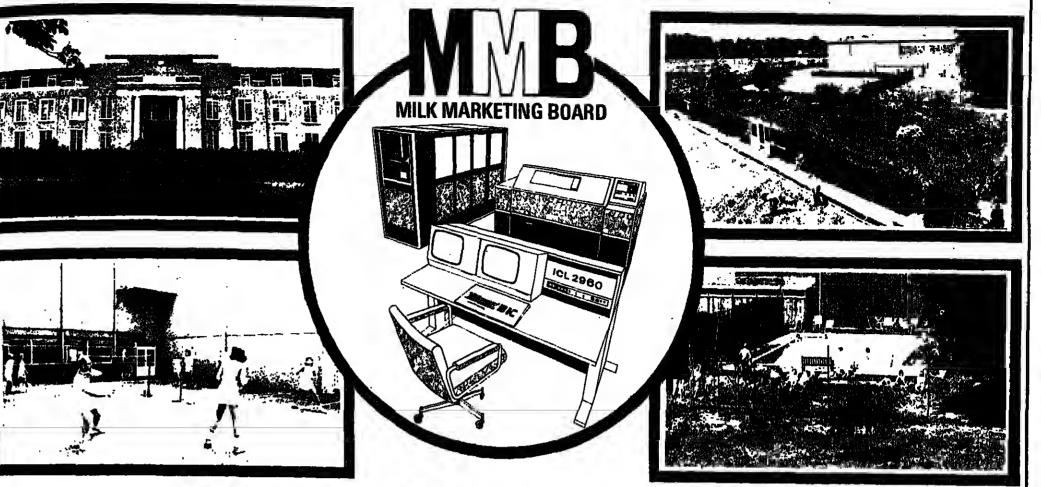
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 From a physical point of DESPITE the life of luxury view, the opportunities and varieties of methods for hotels, fast cars and fast ladles often imagined by those on the outside of selimproving one's condition ling looking in, being a suc-

COMPUTER WEEKLY, August 2, 1979

fit to sell...

cessful salesman is a direct

gies.

Most jobs have either

mental or physical de-

mands, but the salesman, certainly in the realms of

capital goods and high

technology products, is ex-

neighbourhood milkman.

physical state can soon and

mental stress.

function of hard work and

THE SALES AND

MARKETING BIT

Getting yourself

However, a word of wanting for those starting out positive thinking within an on the hard road to physical environment which is more fitness. Don't be in a hurry; susceptible to a coronary by it is not a competition; do virtue of continual business maly what you are capable pressures rather than of doing, rather than allow recurrent Bacchanallan or- the salesman's instinct for competition to take over.

Don't start out by playing dynamic, stop-go sports like football and hockey. Squash in particular, especially in its present boom of popularity, is a real killer.

nosed to both, to a significant degree. Thus his Remember, you don't total capability needs to be play squash to get fit; you much more than is normally get fit to play squash. Squash-court changing head shed boffin or friendly ruom coronaries nulortunately are commouplacy. Just take it easy and aim However, mental and physical condition cannot only to improve on what really be separated. One is you did before, no matter very much a function of the how marginal. Forget the other. Consequently, men-next Olympic Games! tal pressures can quickly

their life far too demamling physical disabilities and and impredictable to be able physical ailments can soon to commit themselves to the cause depression. Converdisculines of being in a sely, a calm or exhibitated given place at a given time mind can bring about a Consequently, court games, relaxed or energetic body let alone team games, run too much risk of having to and an extremely healthy let other people down. For many, jogging has become a Unfortunately many very attractive and sensible saleamen, particularly those made to physical little is.

over 30, appear to be conv-Jugging is really nonpletely unaware of these fairly obvious facts and how much more effective they might be if they paid more attention to their mental and physical condition. Until the salesman is able to approach the sales siopping is irrelevant.

negotiation with a positive Apart from the highly and enthuslastic mind, uncluttered with the garhage beneficial effect on heart of day-to-day self-inflicted and lung, it has the added will never achieve his true

culty, and never con-

of one is the improvement. rigours of day to-day living. of both. So if the salesman is For salesmen that has to to make a real effort to be worth or least an extra improve-his overall condi- couple of calls a weekl tion, it is best to start out One important considerowith either a physical or a tion. If you are contemon which presents the greater ease and attraction. For one it might be Yoga or transcendental meditation. for another, aquash ni jogging. It is not unusual for one to lead to the other to bring about a multiplying marathon? There's thought!

There are many avenues one can explore in terms of a greater montal awareness. My only suggestion is thet individuals should make their judgments on the related benefits of contemplating their linner bein once they have really tried as a confidence trick wi but having had the experlence.

are innumerable.

Most people in selling find lead to psychosomatic

compositive imming where the individual travels whatever distance at whatever speed is appropriate to his or her capability. Whether or not running is interspersed with walking or

trivia, he is less than com- benefit of being totally inpletely effective. Until the dependent of time, location salesman can get up early each and every day, whatever the weather, and noranally feel physically one within their first year of step shead of the game, he jugging to extend their capability from an Initial half-mile stagger to regular So how is this state of runs of five miles and over. fliness and tranquillity Many get so hooked on it achieved? In truth the that they even get into answer must be "With marathon running, an unmuch dedication and diffi- thinkable prospect when they started out. Whatever the level of involvement. One's mental and most regular joggers will physical metabolisms are tell you they never felt interactive. Therefore it is physically and mentally usual that the enhancement more able to cope with the

activity after a long lay off and heve any doubts about. your health, be sure to consult your doctor... Maybe I should get my company to sponsor a computer industry inini-

thoughtl

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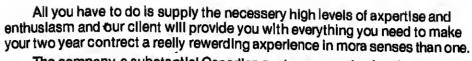
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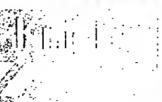
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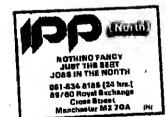
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